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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Yuguang Wu

Wu 113122cont

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06/22/2006

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EXAMINER

CHU, GABRIEL L

ART UNIT

PAPER NUMBER

2114

DATE MAILED: 06/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/822,954

Applicant(s)

WU, YUGUANG

Examiner

Gabriel L. Chu

Art Unit

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ³ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-15, 17-22 and 24-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-15, 17, 21, 22 and 24-27 is/are rejected.
- 7) ☒ Claim(s) 18-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 25 objected to because of the following informalities: Referring to claim 25, "obtains value a parameter that pertains to said user identified" is understood to refer to "obtains a value for a parameter that pertains to a user identified". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claim 24 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.** The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Referring to claim 24, while the specification may be enabling for a single multiprocessing system, there does not appear to be any mention of a "single-processor" multi-processing system.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 2114

5. **Claims 13-15, 21, 22, 24 rejected under 35 U.S.C. 102(b) as being anticipated by US 5432929 to Escola et al.** Referring to claim 13, Escola discloses a method for controlling access to a resource that may be shared by a plurality of users (From line 45 of column 8, "computers C1 and C2... programs P1 and P2").,

which resource has an associated lock and the lock having an associated state, comprising the steps of: when a user U_a of said users wishes to initiate access said user sends to said lock command X that includes a tuple (M, S) , where $M=0$ and $S=B_a$, where B_a uniquely identifies user U_a ; when said lock receives said command X said lock returns to said user its state value B_i that is either 0 or a non-zero value that uniquely identifies a user U_i that previously set said lock (From line 61 of column 6, "The reading of the key-lock, operation completion status code and exception status code is accomplished by a disk subsystem command named "Read Subsystem Data" (RSD) which is arbitrarily assigned the hexcode of `3E`. When an RSD is chained to a C&S command, the full 512 bytes of the key-lock as they were prior to the C&S command are returned to the computer using the standard path for returning data to the requesting computer. Additional optional data such as the subsystem's timer value that was written when the key-lock was last updated may also be read and transferred along with the key-lock. When a program attempts to update the key-lock and the operation fails because the keys are not equal, the program may need to read the key-lock to determine the proper course of action. The RSD command returns the contents of the key-lock prior to the C&S command. If the C&S command was successful the program may not need the prior contents of the key-lock and may ignore it. If the C&S has failed,

Art Unit: 2114

then the key-lock should contain sufficient information to enable the program to ascertain whether another program has control over the key-lock or whether the program seeking to acquire control over the key-lock simply needs to update its key and try again.”),

and when $B_i=0$, said lock sets its state to B_a , thereby granting to said user access to said resource (From line 66 of column 8, “P1 and P2 send a Compare and Swap command to the subsystem containing DFI using the comparison key “0000” and new keys of “C1P1” and “C2P2” respectively. Whichever command reaches the subsystem first will be processed first, but since the subsystem inherently processes only one command at a time they cannot be processed simultaneously. Assuming that the P1 command is executed first and that the key is, in fact, “0000”, then the subsystem will change the key to “C1P1” as well as writing the rest of the key-lock to whatever data is supplied in P1’s C&S command.”);

6. Referring to claim 14, Escola discloses B_a includes an identifier, P_a , that uniquely identifies said user, and a time stamp, T_a , that is a time pertaining to said user (From line 33 of column 8 (with emphasis), “The programs using the key-lock can write whatever information is useful into the key-lock. The programs may also work out whatever conflict resolution is desired in the event that a program acquires the key-lock and fails to release it. A convention could be established, for example, that if **the acquiring program had failed to release the key-lock after a fixed amount of time**, then other programs could overwrite the key-lock. The key point is that the key-lock is a general purpose tool which can be used in an unlimited number of ways.”).

Art Unit: 2114

7. Referring to claim 15, Escola discloses Ba is such that both Pa and Ta can be derived from Ba (See, for example, the table in column 7.).

8. Referring to claim 21, Escola discloses said user is a process (From line 45 of column 8, "computers C1 and C2... programs P1 and P2".).

9. Referring to claim 22, Escola discloses said users are processes of a multiprocessor computer system (From line 45 of column 8, "computers C1 and C2... programs P1 and P2".).

10. Referring to claim 24, Escola disclose said users are processes of a single-processor multiprocessing system (From line 45 of column 8, "computers C1 and C2... programs P1 and P2". Wherein a computer may comprise any and all processors and processes of a system. Wherein Escola has disclosed single computers, C1 and C2, running processes, P1 and P2).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claim 17, 25-27 rejected under 35 U.S.C. 103(a) as being unpatentable over US 5432929 to Escola et al. as applied to claim 15 above, and further in view of "timeout" by Microsoft Computer Dictionary (MSCD).** Referring to claim 17, Escola discloses when in response to command X said lock returns to said user (From line 61

of column 6, "The reading of the key-lock, operation completion status code and exception status code is accomplished by a disk subsystem command named "Read Subsystem Data" (RSD) which is arbitrarily assigned the hexcode of `3E`. When an RSD is chained to a C&S command, the full 512 bytes of the key-lock as they were prior to the C&S command are returned to the computer using the standard path for returning data to the requesting computer. Additional optional data such as the subsystem's timer value that was written when the key-lock was last updated may also be read and transferred along with the key-lock. When a program attempts to update the key-lock and the operation fails because the keys are not equal, the program may need to read the key-lock to determine the proper course of action. The RSD command returns the contents of the key-lock prior to the C&S command. If the C&S command was successful the program may not need the prior contents of the key-lock and may ignore it. If the C&S has failed, then the key-lock should contain sufficient information to enable the program to ascertain whether another program has control over the key-lock or whether the program seeking to acquire control over the key-lock simply needs to update its key and try again."), said user proceeds with the following steps:

derives value of P_i and T from said state (Table of column 7, "Key-lock" and "Subsystem timer value".);

obtains value of T_i that pertains to a user identified by P_i (Table of column 7, "Current Subsystem timer".);

in case of failure, sends command Z to said lock, which command includes tuple (M, S) , where $M = B_i$ (From line 37 of column 8, "A convention could be established, for

example, that if the acquiring program had failed to release the key-lock after a fixed amount of time, then other programs could overwrite the key-lock." From line 1 of column 7, "Additional optional data such as the subsystem's timer value that was written when the key-lock was last updated may also be read and transferred along with the key-lock. When a program attempts to update the key-lock and the operation fails because the keys are not equal, the program may need to read the key-lock to determine the proper course of action. The RSD command returns the contents of the key-lock prior to the C&S command. If the C&S command was successful the program may not need the prior contents of the key-lock and may ignore it. If the C&S has failed, then the key-lock should contain sufficient information to enable the program to ascertain whether another program has control over the key-lock or whether the program seeking to acquire control over the key-lock simply needs to update its key and try again.").

Although Escola does not explicitly say that said failure may be if T is not equal to T_i , having a current time unequal to a timestamp is well known in the art. An example of this is shown by "timeout", from MSCD, "An event that indicates that a predetermined amount of time has elapsed without some other expected event taking place. The timeout event is used to interrupt the process that had been waiting for the other expected event." A person of ordinary skill in the art at the time of the invention would have been motivated to use a timeout because, as shown above, Escola has provided a detailed system of timestamps and current time, even though no explicit comparison of values is disclosed, and Escola further discloses, as shown above, that a need for conflict

Art Unit: 2114

resolution in the case where a program acquires the key-lock but fails to release it.

Further, MSCD has explicitly disclosed that a timeout may be used for just such a situation.

13. Referring to claim 25, Escola discloses when in response to command X said lock returns to said user (From line 61 of column 6, "The reading of the key-lock, operation completion status code and exception status code is accomplished by a disk subsystem command named "Read Subsystem Data" (RSD) which is arbitrarily assigned the hexcode of `3E`. When an RSD is chained to a C&S command, the full 512 bytes of the key-lock as they were prior to the C&S command are returned to the computer using the standard path for returning data to the requesting computer. Additional optional data such as the subsystem's timer value that was written when the key-lock was last updated may also be read and transferred along with the key-lock. When a program attempts to update the key-lock and the operation fails because the keys are not equal, the program may need to read the key-lock to determine the proper course of action. The RSD command returns the contents of the key-lock prior to the C&S command. If the C&S command was successful the program may not need the prior contents of the key-lock and may ignore it. If the C&S has failed, then the key-lock should contain sufficient information to enable the program to ascertain whether another program has control over the key-lock or whether the program seeking to acquire control over the key-lock simply needs to update its key and try again."), said user proceeds with the following steps:

derives value of Pi and T from said state (Table of column 7, "Key-lock" and

Art Unit: 2114

"Subsystem timer value".);

obtains a value for a parameter that pertains to a user identified by P_i , where the parameter is either an operational status of P_i or time T_i associated with P_i (Table of column 7, e.g., "Operation Completion Status Code", "Current Subsystem timer", "Exception Status Code", however all bytes 0-539 may be considered such "operational status".);

if the parameter is the operational status and the operational status indicates that P_i is not operational, or if the parameter is T_i and T_i indicates failure, sends command Z to said lock, which command includes tuple (M, S) , where $M = B_i$ (From line 37 of column 8, "A convention could be established, for example, that if the acquiring program had filed to release the key-lock after a fixed amount of time, then other programs could overwrite the key-lock." From line 1 of column 7, "Additional optional data such as the subsystem's timer value that was written when the key-lock was last updated may also be read and transferred along with the key-lock. When a program attempts to update the key-lock and the operation fails because the keys are not equal, the program may need to read the key-lock to determine the proper course of action. The RSD command returns the contents of the key-lock prior to the C&S command. If the C&S command was successful the program may not need the prior contents of the key-lock and may ignore it. If the C&S has failed, then the key-lock should contain sufficient information to enable the program to ascertain whether another program has control over the key-lock or whether the program seeking to acquire control over the key-lock simply needs to update its key and try again.").

Although Escola does not explicitly say that said failure may be if T is not equal to T_i , having a current time unequal to a timestamp is well known in the art. An example of this is shown by "timeout", from MSCD, "An event that indicates that a predetermined amount of time has elapsed without some other expected event taking place. The timeout event is used to interrupt the process that had been waiting for the other expected event." A person of ordinary skill in the art at the time of the invention would have been motivated to use a timeout because, as shown above, Escola has provided a detailed system of timestamps and current time, even though no explicit comparison of values is disclosed, and Escola further discloses, as shown above, that a need for conflict resolution in the case where a program acquires the key-lock but fails to release it. Further, MSCD has explicitly disclosed that a timeout may be used for just such a situation.

14. Referring to claim 26, Escola discloses $S=B_a$ in tuple (M, S) of command Z (From line 66 of column 8, "P1 and P2 send a Compare and Swap command to the subsystem containing DFI using the comparison key "0000" and new keys of "C1P1" and "C2P2" respectively. Whichever command reaches the subsystem first will be processed first, but since the subsystem inherently processes only one command at a time they cannot be processed simultaneously. Assuming that the P1 command is executed first and that the key is, in fact, "0000", then the subsystem will change the key to "C1P1" as well as writing the rest of the key-lock to whatever data is supplied in P1's C&S command.").

15. Referring to claim 27, Escola discloses in response to command Z the lock returns R , and if $R=B_i$ then said user proceeds with accessing the resource (From line

61 of column 6, "The reading of the key-lock, operation completion status code and exception status code is accomplished by a disk subsystem command named "Read Subsystem Data" (RSD) which is arbitrarily assigned the hexcode of `3E`. When an RSD is chained to a C&S command, the full 512 bytes of the key-lock as they were prior to the C&S command are returned to the computer using the standard path for returning data to the requesting computer. Additional optional data such as the subsystem's timer value that was written when the key-lock was last updated may also be read and transferred along with the key-lock. When a program attempts to update the key-lock and the operation fails because the keys are not equal, the program may need to read the key-lock to determine the proper course of action. The RSD command returns the contents of the key-lock prior to the C&S command. If the C&S command was successful the program may not need the prior contents of the key-lock and may ignore it.").

Allowable Subject Matter

16. Claims 18-20 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. See previous office action.

Response to Arguments

17. Applicant's arguments filed 26 April 2006 have been fully considered but they are not persuasive. Referring to Applicant's assertion (page 5) that claim 13 returns the state of the key lock as it exists when command X arrives which is not a preset value,

this is precisely what Escola does as well (A chained RSD command which returns the key-lock value prior to the C&S command.).

Conclusion

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gabriel L. Chu whose telephone number is (571) 272-3656. The examiner can normally be reached on weekdays between 8:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gc



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